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	OR SOLICITATION DRMATION CALL:	a. NAME Michael	l Fox			b. TELEPHONE 202-564		(No collect calls)	8. OFFER D	UE DATE/LOCAL TIME
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	the accepte	ed technical propo	sal an	nd cost esti	.mate					
	dated June	13, 2019 (8 pages) in t	the amount o	f					
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	Contracting	g Officer's Repres	entati	ive (COR) fo	r					
	this task of	order:								
	Macy Taylor	r, (202) 343-9183,	Масу.	.Taylor@epa.	gov					
	Alternate (COR:								
	Gregory Bea	achley, (202) 343-	9621,							
	Beachley.Gr	regory@epa.gov								
	The service	es of this order a	re for	r severable.						
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CONTINUATION SHEET

REFERENCE NO. OF DOCUMENT BEING CONTINUED

EP-W-16-015/68HERH19F0246

REFERENCE NO. OF DOCUMENT BEING CONTINUED

3 3

NAME OF OFFEROR OR CONTRACTOR

TEM NO. (A)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	AMOUNT (F)
	Equipment			
	Accounting Info: 19-20-C-58D5-000A45-2505-1958DC9047-001 BFY: 19 EFY: 20 Fund: C Budget Org: 58D5 Program (PRC): 000A45 Budget (BOC): 2505 DCN - Line ID: 1958DC9047-001			
	Funding Flag: Complete Funded: \$60,000.00			

ATTACHMENT A Statement of Work

Title: Non-routine Maintenance and Repairs of

CASTNET Equipment (3006)

Contractor: Wood E&IS, Inc.

Contract #: EP-W-16-015

Task Order #: 68HERH19F0246

Period of Performance: 7/9/2019 - 7/8/2020

EPA Key Personnel

Task Order Project Officer (TOPO):

Taylor Macy Clean Air Markets Division (OAP/OAR/CAMD) 1200 Pennsylvania Ave., NW Mail Code 6204M Washington, DC 20460

phone: (202) 343-9183

email: macy.taylor@epa.gov

Alternate TOPO:

Greg Beachley Clean Air Markets Division (OAP/OAR/CAMD) 1200 Pennsylvania Ave., NW Mail Code 6204M Washington, DC 20460 phone: (202) 343-9621

email: beachley.gregory@epa.gov

Contracting Officer (CO):

Michael Fox Contracting Officer Administrative Contract Service Center 1200 Pennsylvania Ave N.W. Mail Code 3803R Washington DC 20460

phone: (202) 564-2550

email: fox.michael@epa.gov

STATEMENT OF WORK

I. INTRODUCTION

The Clean Air Status and Trends Network (CASTNET) is a long-term environmental monitoring network that measures changes in ambient air quality and assesses atmospheric deposition over broad geographic regions of the U.S. (https://www.epa.gov/castnet). Operating since 1987, CASTNET has evolved into a robust regional monitoring program which currently consists of approximately 95 monitoring stations nationwide. The Environmental Protection Agency (EPA) coordinates the operation of the network in cooperation with numerous federal, tribal, state and local partners.

The primary monitoring objectives of CASTNET are to:

- Provide high quality data on atmospheric deposition, rural ground level ozone and other forms of atmospheric pollution;
- Support the primary and secondary ozone NAAQS and provide data on NAAQS compliance in rural areas;
- Monitor the status and trends in regional air quality and atmospheric deposition;
- Assess and report on geographic patterns and long-term, temporal trends in ambient air pollution and atmospheric deposition;
- Improve our understanding of PM and ozone formation;
- Validate and improve atmospheric models;
- Provide data for health-based research and epidemiology studies;
- Assess the effectiveness of EPA's emission reduction programs; and
- Support science and ecosystem studies.

CASTNET sites measure weekly average concentrations of sulfate (SO₄²⁻), nitrate (NO₃⁻), ammonium (NH₄⁺), sulfur dioxide (SO₂), nitric acid (HNO₃), chloride (Cl⁻) and the base cations (Na⁺, K⁺, Mg²⁺and Ca²⁺) using a 3-stage filter pack. In addition, each site may make ancillary measurements, including hourly ozone (O₃), hourly meteorology, ammonia (NH₃) gas using passive devices, and trace-level gases. Trace-level gas monitors include reactive oxidized nitrogen (NOy), nitric oxide (NO), sulfur dioxide (SO₂) and carbon monoxide (CO). CASTNET O₃, meteorological, and trace gas measurements follow the requirements in the Code of Federal Regulations (CFR) and EPA's Quality Assurance Handbook.

II. PURPOSE

The primary purpose of this task order is to perform non-routine maintenance on CASTNET equipment and infrastructure repairs due to unforeseen circumstances, including errors or faulty parts/equipment on the part of manufacturers, or the discontinuation of measurements at current monitoring sites. This work should be considered out of scope from the base operations task orders in place for Task Orders 3003 and 3004 (CASTNET Base Program and CASTNET Tribal

Base Program, respectively), which cover routine, expected maintenance. The TOPO may provide technical direction for performing specific tasks under this task order.

III. CONTRACT LEVEL STATEMENT OF WORK REFERENCE

The tasks to be performed under this task order are consistent with the activities authorized in Task 22 (Level of Effort) from the contract's Statement of Work.

IV. TECHNICAL DIRECTION

1. Prepare a Task Order Technical Proposal & Cost Estimate

The Contractor shall prepare a Task Order Proposal and Cost Estimate (TP&CE) in accordance with the terms and conditions of contract clauses B.1 entitled Fixed Rates for Services – Indefinite delivery/Indefinite quantity contract, using time and materials with a cost ceiling, and will submit it to EPA 10 days after receipt of this SOW.

2. Perform Non-Routine Maintenance and Repairs

2.1 Repair of CASTNET shelters

The site shelter enclosures themselves are important to allow for proper operating conditions to be maintained to meet rigorous quality assurance standards for regulatory NAAQS measurements. Most of the shelters in the network have been in place for upwards of 20 years or more. They are subject to normal wear and tear and also exposed to harsh weather conditions that may cause significant damage over time. Cost analyses show that repair of these shelters is much more cost-effective than a replacement. The contractor shall monitor shelters for repair needs and arrange and conduct the repairs when needed. The repairs may range from minor maintenance to major repairs such as roof or floor replacements. Repairs shall be made in a way to minimize their impact on the sampling schedule.

2.2 Upgrading Data Loggers and Site Communications Equipment

The contractor shall upgrade data logger and site communications-related equipment. This is a follow-on to work that began under Task Order 1006. The NL115 data logger add-on which provides Ethernet connectivity to the data logger, is no longer available from Campbell Scientific, Inc. The NL115 is required at all sites with a CR3000 data logger. Its replacement, the NL116, is not compatible with the current data logger operating system and program. The contractor shall switch from NL115 to NL116 units at all sites. The contractor shall purchase 60 additional NL116 units to retrofit all sites with the new units. Replacements shall be performed during normal calibration visits.

2.3 Re-wiring of Backplanes and Installation of New Modems

The original Sierra Wireless Airlink Raven cellular modems purchased when the network was upgraded with CR3000 data loggers are no longer available or supported. As the modems fail, the contractor shall replace the modems with newer cellular modems. In addition, support for the 3G cellular networks is ending for both AT&T and Verizon. The

contractor shall identify and purchase modems that are compatible with the 4G/LTE networks. At the same time the modems are being replaced, the contractor shall rewire the new backplanes so the backplanes are standardized across the network.

2.4 Additional Maintenance, Repairs and Equipment Purchases

Additional technical direction will be given as other non-routine maintenance and repairs arise on CASTNET equipment and infrastructure. This task includes, but is not limited to aging ozone analyzers, flow controllers and data loggers.

V. DELIVERABLES

All deliverables shall be reviewed and quality assured during the performance of this task order. Deliverables should be submitted to EPA electronically.

1. Technical Proposal & Cost Estimate

The contractor shall deliver a Task Order Technical Proposal and Cost Estimate in accordance with clause Attachment 12 Task Order Ordering Procedures of the contract (EP-W-16-015).

2. Monthly Progress Report

The contractor shall prepare and submit a monthly progress report by the 15th of each month summarizing the progress made, issues encountered or expected, work planned for the next reporting period and costs. These reports shall comply with contract clauses F.1 Monthly Progress Report and F.5 Reports of Work.

Additional deliverables may be required as part of future technical direction.

VI. SCHEDULE

The task order proposal shall be delivered within 10 days of issuance of this task order.

Distribution of Deliverables:

Addressee	Copies
EPA Contracting Officer (Mike Fox)	1
EPA Project Officer (Melissa Puchalski)	1
EPA Task Order Project Officer (Taylor Macy)	1
EPA Alternate TOPO (Gregory Beachley)	1

EP-W-16-015

TO#: 68HERH19F0246

Project#: 3006

ATTACHMENT B SUMMARY OF TASK ORDER OBLIGATION/CEILING AMOUNTS

Total Funding/Obligation Amounts									
Period	Previous Amount	This Action	Amount						
Base Period	-	-	\$60,000.00						
Total	-	-	\$60,000.00						

	Total Task Order Ceiling									
Period	Previous Amount	This Action	Amount							
Base Period	-	-	\$135,910.00							
Total	-	-	\$135,910.00							

Note: This task order is incrementally funded in accordance with contract clause B.5 Limitation of Government's Obligation (EPA-B-32-103).

AMENDME	ENT OF SOLICITATION/MODIFICA	ATION OF CO	NTRACT		CONTRACT ID CODE	PAGE	OF PAGES
2. AMENDME	NT/MODIFICATION NO.	3. EFFECTIVE D	PATE	4. RE	L QUISITION/PURCHASE REQ. NO.	5. PROJECT	NO. (If applicable)
P00001		See Bloc	k 16C	PR-(DAR-20-00115	3006	
6. ISSUED BY	CODE	HQAD		7. AD	MINISTERED BY (If other than Item 6)	CODE	
William 1200 Pe Mail Co	ronmental Protection Jefferson Clinton Bu nnsylvania Avenue, N. de: 3803R	uilding					
	ADDRESS OF CONTRACTOR (No., street,	, county, State and Z	IP Code)	(x) 9A	. AMENDMENT OF SOLICITATION NO.		
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separate let RECEIVED OFFER. If each letter	tter or electronic communication which included THE PLACE DESIGNATED FOR THE by virtue of this amendment you desire to correlectronic communication makes referently and APPROPRIATION DATA (If requested useduse 13. THIS ITEM ONLY APPLIES TO Medical Communication with the comm	udes a reference t RECEIPT OF OFI change an offer all noe to the solicitati uired) ODIFICATION OF	o the solicitation and an FERS PRIOR TO THE Heady submitted , such con and this amendment Net	nendm HOUR change , and is In C	ODIFIES THE CONTRACT/ORDER NO. AS DES	EDGEMENT CCTION OF YOution, provided ecified. 50,000.0	TO BE DUR
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X	D. OTHER (Specify type of modification EPA-B-32-103 - LIMIT	***	COVERNMENT	S OF	RLIGATION		
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\$60,000 TOCOR: 1 LIST OF Reason:	.00 to this task orde. Taylor Macy CHANGES: for Modification: Fundation	r. ding Only	Action				
	al Obligated Amount fo				00		
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\$60,000	.00 to \$120,000.00						
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15A. NAME A	ND TITLE OF SIGNER (Type or print)				NAME AND TITLE OF CONTRACTING OFFICE Chael C. Fox	CER (Type or p	orint)
15B. CONTRA	ACTOR/OFFEROR	1	5C. DATE SIGNED	16B.	UNITED STATES OF AMERICA	L FCTRONIC S:GNATURE	16C. DATE SIGNED
0	(Signature of person authorized to sign)			[-	(Signature of Contracting Officer)		11/12/2019

 CONTINUATION SHEET
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 OF

 EP-W-16-015/68HERH19F0246/P00001
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NAME OF OFFEROR OR CONTRACTOR

EM NO.	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
(A)	(B)	(C)	(D)	(E)	(F)
	CHANGES FOR LINE ITEM NUMBER: 1				
	Obligated Amount for this Modification: \$60,000.00				
	Incremental Funded Amount changed from \$60,000.00				
	to \$120,000.00				
	Co \$120,000.00				
	NEW ACCOUNTING CODE ADDED:				
	Account code:				
	20-21-C-58D5-000A45-2505-2058DC0008-002				
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	Beginning FiscalYear 20				
	Ending Fiscal Year 21				
	Fund (Appropriation) C				
	Budget Organization 58D5				
	Program (PRC) 000A45				
	Budget (BOC) 2505				
	Job # (Site/Project)				
	Cost Organization				
	DCN-LineID 2058DC0008-002				
	Amount: \$60,000.00				
	Subject To Funding: N				
	Payment Address:				
	RTP Finance Center				
	US Environmental Protection Agency				
	RTP-Finance Center (AA216-01)				
	109 TW Alexander Drive				
	www2.epa.gov/financial/contracts				
	Durham NC 27711				
	Payment:				
	RTP Finance Center				
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	US Environmental Protection Agency				
	RTP-Finance Center (AA216-01)				
	109 TW Alexander Drive				
	www2.epa.gov/financial/contracts				
	Durham NC 27711				
	Period of Performance: 07/09/2019 to 07/08/2020				
			1		

EP-W-16-015

TO#: 68HERH19F0246 (3006) Modification#: P00001

ATTACHMENT B SUMMARY OF TASK ORDER OBLIGATION/CEILING AMOUNTS

	Total Funding/Obligation Amounts								
Period	Previous Amount	This Action	Amount						
Base Period	\$60,000.00	\$60,000.00	\$120,000.00						
Total	\$60,000.00	\$60,000.00	\$120,000.00						

	Total Task Order Ceiling									
Period	Previous Amount	This Action	Amount							
Base Period	-	-	\$135,910.00							
Total	-	-	\$135,910.00							

Note: This task order is incrementally funded in accordance with contract clause B.5 Limitation of Government's Obligation (EPA-B-32-103).

AMENDMENT OF SOLICITATION/MODI	FICATION OF C	ONTRACT		CONTRACT ID CODE	PAGE	OF PAGES
2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE	DATE	4. REQI	JISITION/PURCHASE REQ. NO.	5. PROJECT	NO. (If applicable)
P00002	See Blo	ck 16C	PR-O	AR-20-00415	3006	
6. ISSUED BY	DE HQAD		7. ADM	INISTERED BY (If other than Item 6)	CODE	
HQAD US Environmental Protection William Jefferson Clinton 1200 Pennsylvania Avenue, Mail Code: 3803R Washington DC 20460	Building				_	
8. NAME AND ADDRESS OF CONTRACTOR (No.,	street, county, State and	ZIP Code)	(v) 9A.	AMENDMENT OF SOLICITATION NO.		-
WOOD ENVIRONMENT & INFRASTRU Attn: JOSEPH FARRELL 751 Arbor Way Ste 180 Blue Bell PA 194221972		ONS, INC.	9B. × 10A EP 68	DATED (SEE ITEM 11) MODIFICATION OF CONTRACT/ORDER N -W-16-015 HERH19F0246 DATED (SEE ITEM 13)	4 0.	
CODE 038086125	FACILITY COD	F		7/02/2019		
ODE 038086125				ENTS OF SOLICITATIONS		
Offers must acknowledge receipt of this amendm Items 8 and 15, and returning separate letter or electronic communication whicl RECEIVED AT THE PLACE DESIGNATED FOR OFFER. If by virtue of this amendment you desire each letter or electronic communication makes re 12. ACCOUNTING AND APPROPRIATION DATA (#	copies of the amer includes a reference THE RECEIPT OF C e to change an offer eference to the solicits	dment; (b) By acknowledge to the solicitation and an FFERS PRIOR TO THE Halready submitted, such dation and this amendment	ging recomendment HOUR A change not, and is i	pipt of this amendment on each copy of the o at numbers. FAILURE OF YOUR ACKNOW! ND DATE SPECIFIED MAY RESULT IN REJ hay be made by letter or electronic communic eceived prior to the opening hour and date s	ffer submitted; LEDGEMENT ECTION OF Ye cation, provided	or (c) By TO BE DUR
See Schedule	100 9.3 90 ° 10 0.00 9 00 0.00 5 ° 0	Nec	THE	rease.	30,000.	
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X Mutual Agreement	<u> </u>					
E. IMPORTANT: Contractor	ION (Organized by U		luding so	licitation/contract subject matter where feasi	ble.)	
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Except as provided herein, all terms and conditions 15A. NAME AND TITLE OF SIGNER (Type or print)		rrencea in Item 9 A or 10A	16A. N	etofore changed, remains unchanged and in AME AND TITLE OF CONTRACTING OFFI		
15B. CONTRACTOR/OFFEROR (Signature of person authorized to sign)		15C. DATE SIGNED		NITED STATES OF AMERICA	FL FCTRONIC S:GNATURE	16C. DATE SIGNED 02/21/2020

CONTINUATION SHEET REFERENCE NO. OF DOCUMENT BEING CONTINUED

EP-W-16-015/68HERH19F0246/P00002

NAME OF OFFEROR OR CONTRACTOR

WOOD ENVIRONMENT & INFRASTRUCTURE SOLUTIONS, INC.

EM NO. (A)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)
(A)	` *	(0)	(D)	(E)	(F)
	The total obligated/funded ceiling amount for				
	this order is currently \$170,000.00. This order				
	is incrementally funded as detailed in Attachment				
	B Summary of Amounts and Ceilings and Attachment				
	B is hereby incorporated (1 page).				
	TOCOR: Taylor Macy				
	LIST OF CHANGES:				
	Reason for Modification: Supplemental Agreement				
	for work within scope				
	Total Amount for this Modification: \$100,333.00				
	New Total Amount for this Version: \$236,243.00				
	New Total Amount for this Award: \$236,243.00				
	N N				
	Obligated Amount for this Modification: \$50,000.00				
	New Total Obligated Amount for this Award:				
	\$170,000.00				
	Incremental Funded Amount changed: from				
	\$120,000.00 to \$170,000.00				
	CHANGES FOR LINE ITEM NUMBER: 1				
	Total Amount changed				
	from \$135,910.00 to \$236,243.00				
	Obligated Amount for this Modification: \$50,000.00				
	Incremental Funded Amount changed from				
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	NEW ACCOUNTING CODE ADDED:				
	Account code:				
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	Ending Fiscal Year 21				
	Fund (Appropriation) C				
	V =				
	Budget Organization 58D5				
	Program (PRC) 000A45				
	Budget (BOC) 2505				
	Job # (Site/Project)				
	Cost Organization				
	DCN-LineID 2058DC0027-001				
	Amount: \$50,000.00				
	Subject To Funding: N				
	Payment Address:				
	RTP Finance Center				
	US Environmental Protection Agency				
	RTP-Finance Center (AA216-01)				
	109 TW Alexander Drive				
	www2.epa.gov/financial/contracts				
	Durham NC 27711				
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NAME OF OFFEROR OR CONTRACTOR

TEM NO. (A)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)
	Payment:				
	RTP Finance Center				
	US Environmental Protection Agency				
	RTP-Finance Center (AA216-01)				
	109 TW Alexander Drive				
	www2.epa.gov/financial/contracts				
	Durham NC 27711 Period of Performance: 07/09/2019 to 07/08/2020				
	Period of Periormance: 07/09/2019 to 07/08/2020				

AMENDMENT OF SOLICITATION/MODIFIC	ATION OF CO	NTRACT		CONTRACT ID CODE	PAGE	OF PAGES
2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE	DATE	4. RE	 QUISITION/PURCHASE REQ. NO.	5. PROJECT	NO. (If applicable)
P00003	See Bloo	k 16C	PR-	OAR-20-00806	3006	
6. ISSUED BY CODE	HQAD		7. AE	OMINISTERED BY (If other than Item 6)	CODE	
HQAD US Environmental Protection William Jefferson Clinton Bu 1200 Pennsylvania Avenue, N. Mail Code: 3803R Washington DC 20460	uilding				_	
8. NAME AND ADDRESS OF CONTRACTOR (No., street	t, county, State and .	ZIP Code)	(x) 9/	A. AMENDMENT OF SOLICITATION NO.		1
WOOD ENVIRONMENT & INFRASTRUCTU Attn: JOSEPH FARRELL 751 Arbor Way Ste 180 Blue Bell PA 194221972	JRE SOLUTIO	DNS, INC.	91 x 10 E	B. DATED (SEE ITEM 11) DA. MODIFICATION OF CONTRACT/ORDER NOT NOTED TO SEE THE SEE TH	0.	
CODE 038086125	FACILITY CODE			07/02/2019		
	 11. THI\$ ITE	M ONLY APPLIES TO AM		MENTS OF SOLICITATIONS		
	RECEIPT OF OF change an offer a nee to the solicita uired)	FERS PRIOR TO THE H Iready submitted , such of tion and this amendment Net	HOUR change , and i In	AND DATE SPECIFIED MAY RESULT IN REJE e may be made by letter or electronic communics s received prior to the opening hour and date sp	ection OF Your ation, provided ecified.	DUR 1 0 0
C. THIS SUPPLEMENTAL AGREEMEN D. OTHER (Specify type of modification	T IS ENTERED II	NTO PURSUANT TO AU	THOR		n paying office	9,
X EPA-B-32-103 - LIMIT	ATION OF	GOVERNMENTS	OB:	LIGATION		
E. IMPORTANT: Contractor ☑ is not 14. DESCRIPTION OF AMENDMENT/MODIFICATION DUNS Number: 038086125	Organized by UC	CF section headings, incl	uding		le.)	
The purpose of this modifica \$66,243.00 to fully-fund thi TOCOR: Taylor Macy LIST OF CHANGES: Reason for Modification: Fun Obligated Amount for this Mo New Total Obligated Amount f Incremental Funded Amount ch \$170,000.00 to \$236,243.00	s task on ding Only dification this A anged:	der. Action on: \$66,243.0	00		amount	OI
CHANGES FOR LINE ITEM NUMBER	: 1					
Except as provided herein, all terms and conditions of the 15A. NAME AND TITLE OF SIGNER (Type or print)	ne document refer	enced in Item 9 A or 10A	16A	eretofore changed, remains unchanged and in formal NAME AND TITLE OF CONTRACTING OFFICE Chael C. Fox		
15B. CONTRACTOR/OFFEROR		15C. DATE SIGNED	16B	UNITED STATES OF AMERICA	L FCTRONIC S:GNATURE	16C. DATE SIGNED
(Signature of person authorized to sign)			-	(Signature of Contracting Officer)	-	04/22/2020

 CONTINUATION SHEET
 REFERENCE NO. OF DOCUMENT BEING CONTINUED
 PAGE
 OF

 EP-W-16-015/68HERH19F0246/P00003
 2
 3

NAME OF OFFEROR OR CONTRACTOR

ITEM NO.	SUPPLIES/SERVICES	QUANTITY		UNIT PRICE	AMOUNT
(A)	(B)	(C)	(D)	(E)	(F)
	Obligated Amount for this Modification: \$66,243.00		1		
	Incremental Funded Amount changed from				
	\$170,000.00 to \$236,243.00				
	NEW ACCOUNTING CODE ADDED:				
	Account code:				
	20-21-C-58D5-000A45-2505-2058DC0048-001				
	Beginning FiscalYear 20				
	Ending Fiscal Year 21				
	Fund (Appropriation) C				
	Budget Organization 58D5				
	Program (PRC) 000A45				
	Budget (BOC) 2505				
	Job # (Site/Project)				
	Cost Organization				
	DCN-LineID 2058DC0048-001				
	Amount: \$66,243.00				
	Subject To Funding: N				
	Payment Address:				
	RTP Finance Center				
	US Environmental Protection Agency				
	RTP-Finance Center (AA216-01)				
	109 TW Alexander Drive				
	www2.epa.gov/financial/contracts				
	Durham NC 27711				
	Payment: RTP Finance Center US Environmental Protection Agency RTP-Finance Center (AA216-01) 109 TW Alexander Drive www2.epa.gov/financial/contracts Durham NC 27711 Period of Performance: 07/09/2019 to 07/08/2020				
		I			

EP-W-16-015

Order#: 68HERH19F0246 (3006)

Modification: P00003

ATTACHMENT B SUMMARY OF TASK ORDER OBLIGATION/CEILING AMOUNTS

Total Funding/Obligation Amounts									
Period	Previous Amount	This Action	Amount						
Base Period	\$170,000.00	\$66,243.00	\$236,243.00						
Total	\$170,000.00	\$66,243.00	\$236,243.00						

Total Task Order Ceiling									
Period	Previous Amount	This Action	Amount						
Base Period	\$236,243.00	-	\$236,243.00						
Total	\$236,243.00	-	\$236,243.00						

Note: This task order is incrementally funded in accordance with contract clause B.5 Limitation of Government's Obligation (EPA-B-32-103).

S				MERCIAL ITEMS		REQUISITION NU		-	PAGE OF	En.
		R TO COMPLETE E		<u> </u>	PI	R-OAR-19	AZSON DESIGNATION OF SE	397	1	3
2. CONTRACT NO EP-W-16-	o. -015		3. AWARD/ EFFECTIVE DA 07/09/2	4. ORDER NUMBER 019 68HERH19F02	47			5. SOLICITATION NUMBEI	R	6. SOLICITATION ISSUE DATE
	R SOLICITATION PRIMATION CALL:	a. NAME Micha	el Fox			b. TELEPHONE 202-564		(No collect calls)	8. OFFER D ET	DUE DATE/LOCAL TIME
9. ISSUED BY			CODE	HQAD	10. THIS AC	QUISITION IS	X UNI	RESTRICTED OR	SET ASIDE:	% FOR:
HQAD US Environmental Protection Agency William Jefferson Clinton Building 1200 Pennsylvania Avenue, N. W. Mail Code: 3803R Washington DC 20460			BUSINESS					ED NAICS:541620 BIZE STANDARD: \$15.0		
11. DELIVERY F	FOR FOB DESTINA-	12. DISCOUNT TERM	1S		_			13b. RATING		
TION UNLES MARKED X SEE SC	SS BLOCK IS				RA	IS CONTRACT IS TED ORDER UNI AS (15 CFR 700)		14. METHOD OF SOLIC		RFP
15. DELIVER TO		CC	OAR/OAF	í	16. ADMINIS	TERED BY				OAD .
1200 Per Mail Coc OAR/OAP	ronmental P nnsylvania de: 62101J ton DC 2046	Avenue NW	Agency		Willia 1200 E Mail (am Jeffe	rson (ania 2 803R	rotection Ag Clinton Buil Avenue, N. W	ding	
17a. CONTRACT		038086125	FACILIT			NT WILL BE MAD			CODE R	TP FMC
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	Ī				IS CHE		SEE ADDE			
19. ITEM NO.		SCHE	20. DULE OF SUPPLIES/	SERVICES		21. QUANTITY	22. UNIT	23. UNIT PRICE		24. AMOUNT
	for MARGA This task Order Orde the base of reference. commence if	ocurement of Operation order is dering Processon tract to The effects July 9, actor shall	of Supplied at CASTNE issued in edures and continued date 2019.	es and Consumab ET Sites (3007) accordance with hereby incorpt conditions by the for performant in accordance weeks as Necessary)	h Tas} orates ice to					
25. ACCOUNT	ING AND APPROPRI			octo do Hoodeda.y/		ı	20	5. TOTAL AWARD AMO	UNT (For Go	vt. Use Only)
See Sche		AND						\$4,879.	00	
				. 52.212-4. FAR 52.212-3 AI			ED. ADI	DENDA A	□ ARE	☐ ARE NOT ATTACHED. ☐ ARE NOT ATTACHED.
COPIES TO ALL ITEMS SHEETS SL	ACTOR IS REQUIRED ISSUING OFFICE. SET FORTH OR OTH JBJECT TO THE TEF E OF OFFEROR/CONTR	CONTRACTOR AGI HERWISE IDENTIFI RMS AND CONDITION	REES TO FURNIS IED ABOVE AND C	4	31a. UNITI	HEREIN, IS A	ANY ADDI	, YOUR OFF TIONS OR CHANGES DAS TO ITEMS: GNATURE OF CONTRACT	WHICH ARE TING OFFICER)	OFFER CITATION (BLOCK 5), SET FORTH
20b MARAT AL	ID TITLE OF CLOVES	(Time or not)		30c. DATE SIGNED	100		OTINO O	5:GNATU FFICER (Type or print)	KÉ	240 DATE CIONES
SUD. NAME AN	ID TITLE OF SIGNER	ι (rype or print)		JOVO. DATE SIGNED		el C. Fo		-FIUEK (Type or print)		31c. DATE SIGNED 07/02/2019

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19. ITEM NO.		20. SCHEDULE OF SUPPLIE	S/SERVICES		21. QUANTITY	22. UNIT	23. UNIT PR	RICE	24. AMOUNT
	the Attachi	ment A Statement o	of Work (4 page	es) and					
	the accepted technical proposal and cost estimate dated June 19, 2018 (6 pages) in the amount of								
		19, 2018 (6 pages	s) in the amoun	it OI					
	\$4,879.00.								
	This is a	Time-and-Materials	(TIM) tack or	dor					
		al ceiling price o							
	the Contra	ctor is not author	rized to exceed	l. The					
	Contractor	exceeds at its ow	m risk.						
	mbo total	olo 1 d oco to old / Francisco d	vailine emeust	£0					
		obligated/funded o	_						
		is currently \$2,5							
		lly funded as deta							
	Summary of	Amounts and Ceili	ngs and Attach	ment B					
	is hereby	incorporated (1 pa	ige).						
	Contracting	g Officer's Repres	cantativo (COP)	for					
	this task		sentative (COR)	TOT					
			0.001						
	1 - 1	achley, (202) 343-	-9621,						
	Beachley.G	regory@epa.gov							
	Alternate	COR:							
	Melissa Pu	chalski, (202) 343	3-9882,						
	Puchalski.Melissa@epa.gov								
		- 1							
	The service	es of this order a	are for severab	ole.					
	TOCOR: Gree	g Beachley							
	Period of	Performance: 07/09	9/2019 to 07/08	3/2020					
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32a. QUANTIT	Y IN COLUMN 21 HAS						_		
	\$27.00 P	PECTED ACCEPTE GOVERNMENT REPRESENTATIV	D, AND CONFORMS TO TH					OPIZED G	OVEDNMENT DEDDESENTATIVE
325. GIGINATO	INC OF AUTHORIZED	OOVERNMENT NEI NEGENTATIV	020. DATE	320. F Kill	32d. PRINTED NAME AND TITLE OF AUTHORIZED GOVERNMENT REPRESENTATIVE				
32e. MAILING	ADDRESS OF AUTHO	RIZED GOVERNMENT REPRESEI	NTATIVE	32f. TELE	PHONE NUI	MBER	OF AUTHORIZ	ED GOVER	NMENT REPRESENTATIVE
				32g. E-M/	AIL OF AUTH	IORIZI	ED GOVERNME	NT REPRE	ESENTATIVE
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	CORRECT FOR			MPLETE		PARTIAL [FINAL		
PARTIAL FINAL					يال	LONIAL	_ I IIIAL		
38. S/R ACCOUNT NUMBER 39. S/R VOUCHER NUMBER 40. PAID BY									
41a. I CERTIF	Y THIS ACCOUNT IS (CORRECT AND PROPER FOR PAY	<u> </u> /MENT	42a. RI	ECEIVED BY	(Prim	t)		
41b. SIGNATU	41b. SIGNATURE AND TITLE OF CERTIFYING OFFICER 41c. DATE			**					
				42b. R	42b. RECEIVED AT (Location)				
					42c. DATE REC'D (YY/MM/DD) 42d. TOTAL CONTAINERS				

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CONTINUATION SHEET	EP-W-16-015/68HERH19F0247	3	3

NAME OF OFFEROR OR CONTRACTOR

ГЕМ NO. (Д)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	AMOUNT (F)
001	Procurement of Supplies and Consumables for MARGA Operations at CASTNET Sites			
	operations at CASINET Sites			
	Accounting Info:			
	19-20-C-58D5-000A45-2505-1958DC9055-001 BFY: 19 EFY: 20 Fund: C Budget Org: 58D5 Program (PRC):			
	000A45 Budget (BOC): 2505 DCN - Line ID: 1958DC9055-001			
	Funding Flag: Complete			
	Funded: \$2,500.00			

ATTACHMENT A Statement of Work

Title: Procurement of Supplies and Consumables for

MARGA Operation at CASTNET Sites (3007)

Contractor: Wood Environment & Infrastructure Solutions, Inc

 Contract #:
 EP-W-16-015

 Task Order #:
 68HERH19F0247

 Period of Performance:
 7/9/2019 – 7/8/2020

EPA Key Personnel

Task Order Project Officer (TOPO):

Greg Beachley Clean Air Markets Division (OAP/OAR/CAMD) 1200 Pennsylvania Ave., NW Mail Code 6204M Washington, DC 20460 phone: (202) 343-9621

email: beachley.gregory@epa.gov

Alternate Task Order Project Officer/Project Officer:

Melissa Puchalski Clean Air Markets Division (OAP/OAR/CAMD) 1200 Pennsylvania Ave., NW Mail Code 6204M Washington, DC 20460 phone: (202) 343-9882

email: puchalski.melissa@epa.gov

Contracting Officer (CO):

Michael Fox Contracting Officer Administrative Contract Service Center 1200 Pennsylvania Ave N.W. Mail Code 3803R Washington DC 20460 phone: (202) 564-2550

email: fox.michael@epa.gov

STATEMENT OF WORK

I. INTRODUCTION

The Clean Air Status and Trends Network (CASTNET) is a long-term environmental monitoring network that measures changes in ambient air quality and assesses atmospheric deposition over broad geographic regions of the U.S. (https://www.epa.gov/castnet). Operating since 1987, CASTNET has evolved into a robust regional monitoring program which currently consists of approximately 95 monitoring stations nationwide. The Environmental Protection Agency (EPA) coordinates the operation of the network in cooperation with numerous federal, tribal, state and local partners.

The primary monitoring objectives of CASTNET are to:

- Provide high quality data on atmospheric deposition, rural ground level ozone and other forms of atmospheric pollution;
- Support the primary and secondary ozone NAAQS and provide data on NAAQS compliance in rural areas;
- Monitor the status and trends in regional air quality and atmospheric deposition;
- Assess and report on geographic patterns and long-term, temporal trends in ambient air pollution and atmospheric deposition;
- Improve our understanding of PM and ozone formation;
- Validate and improve atmospheric models;
- Provide data for health-based research and epidemiology studies;
- Assess the effectiveness of EPA's emission reduction programs; and
- Support science and ecosystem studies.

CASTNET sites measure weekly average concentrations of sulfate (SO₄²-), nitrate (NO₃-), ammonium (NH₄+), sulfur dioxide (SO₂), nitric acid (HNO₃), chloride (Cl⁻) and the base cations (Na⁺, K⁺, Mg²⁺and Ca²⁺) using a 3-stage filter pack. In addition, each site may make ancillary measurements, including hourly ozone (O₃), hourly meteorology, ammonia (NH₃) gas using passive devices, and trace-level gases. Trace-level gas monitors include reactive oxidized nitrogen (NOy), nitric oxide (NO), sulfur dioxide (SO₂) and carbon monoxide (CO). CASTNET O₃, meteorological, and trace gas measurements follow the requirements in the Code of Federal Regulations (CFR) and EPA's Quality Assurance Handbook.

II. PURPOSE

The primary purpose of this task is for the procurement of supplies and consumables that will be used for the operation and maintenance of the Monitor for Aerosols and Gases in Ambient Air (MARGA) systems operated in support of CASTNET. The key activities under this task will be to ship the existing MARGA units from the current operating locations to the Principle Investigators that will operate the MARGA units in FY2020. This task order is a continuation of

work that began under EP-W-09-028 Task Order 0435 and a follow-on to task order 0007 under this contract.

III. CONTRACT LEVEL STATEMENT OF WORK REFERENCE

The tasks to be performed under this task order are consistent with the activities authorized in Task 22 (Level of Effort) of the contract's Statement of Work.

IV. TECHNICAL DIRECTION

1. Prepare a Task Order Technical Proposal and Cost Estimate

The Contractor shall prepare a Task Order Proposal in accordance with the terms and conditions of contract clauses B.2 entitled Fixed Rates for Services – Indefinite delivery/Indefinite quantity contract, using time and materials with a cost ceiling, and will submit it to EPA.

2. Field Set-up and Operations

The contractor shall procure and deliver supplies and consumables, as directed by the TOPO to support the setup, operation, and maintenance of the direct deposition instrument at a yet-to-be determined research site.

During the period of performance, on an approximately a monthly basis, the TOPO will provide AMEC Foster Wheeler with an itemized list of parts, supplies and consumables needed for the operation and calibration of the MARGAs. Potential vendors will be identified whenever possible. AMEC will deliver all parts, materials and supplies as directed by the TOPO.

Table 1 summarizes the types of materials and supplies required for Task Order 3007 and the estimated total cost.

Table 1 Materials and Supplies

Items	Total Cost
MARGA replacement parts	\$1,500

V. DELIVERABLES

1. Task Order Technical Proposal and Cost Estimate

The contractor shall deliver a Task Order Proposal and Cost Estimate in accordance with clause B.7 Task Order Ordering Procedures of the contract and section IV.1 of this SOW

2. Monthly Progress Report

The contractor shall prepare and submit a monthly progress report by the 15th of each month summarizing the progress made, issues encountered or expected, work planned for the next reporting period and costs. These reports shall comply with contract clauses F.1 Monthly Progress Report and F.5 Reports of Work. Reports shall be delivered electronically.

Additional deliverables may be required as part of future technical direction.

VI. SCHEDULE

The task order proposal shall be delivered within 10 days of issuance of this task order.

Distribution of Deliverables:

Addressee	Copies
EPA Contracting Officer (Mike Fox)	1
EPA TOPO (Greg Beachley)	1
EPA Alternate TOPO/PO (Melissa Puchalski)	1

EP-W-16-015

TO#: 68HERH19F0247

Project#: 3007

ATTACHMENT B SUMMARY OF TASK ORDER OBLIGATION/CEILING AMOUNTS

Total Funding/Obligation Amounts									
Period	Previous Amount	This Action	Amount						
Base Period	į.	-	\$2,500.00						
Total	-	-	\$2,500.00						

Total Task Order Ceiling								
Period	Previous Amount	This Action	Amount					
Base Period	-	-	\$4,879.00					
Total	-	-	\$4,879.00					

Note: This task order is incrementally funded in accordance with contract clause B.5 Limitation of Government's Obligation (EPA-B-32-103).

AMENDMENT OF SOLICITATION/MODIFIC	ATION OF CO	NTRACT	1. (CONTRACT ID CODE	PAGE	OF PAGES
2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE	DATE	4. REQUISI	TION/PURCHASE REQ. NO.	5. PROJECT	Γ NO. (If applicable)
P00001	See Bloc	k 16C	PR-OAR-	-20-00741	3007	
6. ISSUED BY CODE	HQAD		7. ADMINIS	STERED BY (If other than Item 6)	CODE	
HQAD US Environmental Protection William Jefferson Clinton Bu 1200 Pennsylvania Avenue, N. Mail Code: 3803R Washington DC 20460	uilding					
8. NAME AND ADDRESS OF CONTRACTOR (No., street	t sounds State and	7/D Code)	IOA AME	ENDMENT OF SOLICITATION NO		
WOOD ENVIRONMENT & INFRASTRUCTU Attn: JOSEPH FARRELL 751 Arbor Way Ste 180 Blue Bell PA 194221972		DNS, INC.	9B. DAT ** 10A. MC EP-W 68HE	ENDMENT OF SOLICITATION NO. ED (SEE ITEM 11) DIFFICATION OF CONTRACT/ORDE -16-015 RH19F0247	R NO.	
	T		500 O. 100 VI	TED (SEE ITEM 13)		
CODE 038086125	FACILITY CODE	M ONLY APPLIES TO AM	-	02/2019		
separate letter or electronic communication which incl RECEIVED AT THE PLACE DESIGNATED FOR THE OFFER. If by virtue of this amendment you desire to each letter or electronic communication makes referent 12. ACCOUNTING AND APPROPRIATION DATA (If req See Schedule	ludes a reference RECEIPT OF OF change an offer a nce to the solicital uired) ODIFICATION OF	to the solicitation and an FERS PRIOR TO THE H Iready submitted , such o ion and this amendment	mendment nu HOUR AND I change may I t, and is recei	DATE SPECIFIED MAY RESULT IN Rebe made by letter or electronic commived prior to the opening hour and dates the CONTRACT/ORDER NO. AS	OWLEDGEMENT REJECTION OF YOunication, provided to specified.	TO BE OUR d
B. THE ABOVE NUMBERED CONTRAC appropriation data, etc.) SET FORTH C. THIS SUPPLEMENTAL AGREEMEN D. OTHER (Specify type of modification	T IS ENTERED IN				es in paying office	3,
E. IMPORTANT: Contractor 🗵 is not 14. DESCRIPTION OF AMENDMENT/MODIFICATION DUNS Number: 038086125		75	27	copies to the iss ation/contract subject matter where fe		
The purpose of this administ				e-obligate \$2,022.	78 in FY	19/20
funding and obligate \$2,022.	78 in FY	20/21 fundin	ng.			
TOCOR: Greg Beachley						
LIST OF CHANGES:	211					
Reason for Modification: Fun CHANGES FOR LINE ITEM NUMBER		Action .				
NEW ACCOUNTING CODE ADDED: Account code:						
Account code: 20-21-c-58D5-000A45-2505-205	8DC0036-0	0.01				
20-21-C-36D3-000A43-2303-203 Continued	00000000	/OI				
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Except as provided herein, all terms and conditions of the 15A. NAME AND TITLE OF SIGNER (Type or print)	ie accument refer	епсец ін ісеті э А ог 10А	16A. NAMI	E AND TITLE OF CONTRACTING O		
				el C. Fox		
15B. CONTRACTOR/OFFEROR		15C. DATE SIGNED		ED STATES OF AMERICA	ELECTRONIC S:GNATURE	16C. DATE SIGNED
(Cignoture of person authorized to sign)				(Signature of Contracting Officer)		

 CONTINUATION SHEET
 REFERENCE NO. OF DOCUMENT BEING CONTINUED
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 OF

 EP-W-16-015/68HERH19F0247/P00001
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NAME OF OFFEROR OR CONTRACTOR

ITEM NO.	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
(A)	(B)	(C)	(D)	(E)	(F)
	Beginning FiscalYear 20	+			
	Ending Fiscal Year 21				
	Fund (Appropriation) C				
	Budget Organization 58D5				
	Program (PRC) 000A45				
	Budget (BOC) 2505				
	Job # (Site/Project)				
	Cost Organization				
	DCN-LineID 2058DC0036-001				
	Amount: \$2,022.78				
	Subject To Funding: N				
	Payment Address:				
	RTP Finance Center				
	US Environmental Protection Agency				
	RTP-Finance Center (AA216-01)				
	109 TW Alexander Drive				
	www2.epa.gov/financial/contracts				
	Durham NC 27711				
	Balliam No 27711				
	CHANGES FOR ACCOUNTING CODE:				
	19-20-C-58D5-000A45-2505-1958DC9055-001				
	Amount changed from \$2,500.00 to \$477.22				
	Payment:				
	RTP Finance Center				
	US Environmental Protection Agency				
	RTP-Finance Center (AA216-01)				
	109 TW Alexander Drive				
	www2.epa.gov/financial/contracts				
	Durham NC 27711				
	Period of Performance: 07/09/2019 to 07/08/2020				
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AMENDMENT OF SOLICITATION/MODIFIC	ATION OF CO	ONTRACT	1. CONTRACT ID CODE	PAGE OF PAGES
2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE	DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)
P00002	See Bloo	ck 16C		3007
6. ISSUED BY CODE	HQAD		7. ADMINISTERED BY (If other than Item 6)	CODE
HQAD US Environmental Protection William Jefferson Clinton Bu 1200 Pennsylvania Avenue, N. Mail Code: 3803R Washington DC 20460	uilding			
8. NAME AND ADDRESS OF CONTRACTOR (No., street	t county State and	ZIP Code)	9A. AMENDMENT OF SOLICITATION NO.	
WOOD ENVIRONMENT & INFRASTRUCTU Attn: JOSEPH FARRELL 751 Arbor Way Ste 180 Blue Bell PA 194221972		ONS, INC.	9B. DATED (SEE ITEM 11) ** 10A. MODIFICATION OF CONTRACT/ORDER EP-W-16-015 68HERH19F0247	NO.
0005	TEA OU IEV OOR		10B. DATED (SEE ITEM 13)	
CODE 038086125	FACILITY COD		07/02/2019 MENDMENTS OF SOLICITATIONS	
Offers must acknowledge receipt of this amendment parties and 15, and returning conseparate letter or electronic communication which included RECEIVED AT THE PLACE DESIGNATED FOR THE OFFER. If by virtue of this amendment you desire to each letter or electronic communication makes reference.	pies of the ameno ludes a reference : RECEIPT OF Ol change an offer a	dment; (b) By acknowledge to the solicitation and an FFERS PRIOR TO THE Interest of the submitted of the sub	ging receipt of this amendment on each copy of the nendment numbers. FAILURE OF YOUR ACKNOW HOUR AND DATE SPECIFIED MAY RESULT IN RE shange may be made by letter or electronic commur	offer submitted ; or (c) By WLEDGEMENT TO BE JECTION OF YOUR nication, provided
12. ACCOUNTING AND APPROPRIATION DATA (If req		600011 12		-\$2,022.78
See Schedule				
	CT/ORDER IS MO H IN ITEM 14, PU	ODIFIED TO REFLECT T RSUANT TO THE AUTH	CHANGES SET FORTH IN ITEM 14 ARE MADE IN HE ADMINISTRATIVE CHANGES (such as change ORITY OF FAR 43.103(b). THORITY OF:	
D. OTHER (Specify type of modification	and authority)			
X EPA-B-32-103 - LIMIT	• .	GOVERNMENTS	OBLIGATION	
E. IMPORTANT: Contractor X is not			return copies to the issu	ing office
14. DESCRIPTION OF AMENDMENT/MODIFICATION DUNS Number: 038086125		E)		<u> </u>
The purpose of this modifica	tion is	co de-obligat	e funding in the amount o	f \$2,022.78 from
this task order.				
TOCOR: Greg Beachley				
LIST OF CHANGES:	33.1	-		
Reason for Modification: Fun	1.5		3.0	
Obligated Amount for this Mo New Total Obligated Amount f				
New Total Obligated Amount f Incremental Funded Amount ch		Award: \$4//.z from	. 4	
\$2,500.00 to \$477.22	angeu.	TIOIII		
CHANGES FOR LINE ITEM NUMBER	: 1			
Changes for line frem number Continued	. 1			
Except as provided herein, all terms and conditions of the	ne document refe	renced in Item 9 A or 10A	. as heretofore changed, remains unchanged and in	n full force and effect
15A. NAME AND TITLE OF SIGNER (Type or print)	accumentities		16A. NAME AND TITLE OF CONTRACTING OFF	
			Michael C. Fox	T
15B. CONTRACTOR/OFFEROR		15C. DATE SIGNED	16B. UNITED STATES OF AMERICA	16C. DATE SIGNED
(Signature of parson authorized to give)			Signature of Confracting Officers	9/04/2020

 CONTINUATION SHEET
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 OF

 EP-W-16-015/68HERH19F0247/P00002
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NAME OF OFFEROR OR CONTRACTOR

ITEM NO.	SUPPLIES/SERVICES (B)	 UNIT (D)	UNIT PRICE (E)	AMOUNT (F)
	Obligated Amount for this Modification: -\$2,022.78 Incremental Funded Amount changed from \$2,500.00 to \$477.22			
	CHANGES FOR ACCOUNTING CODE: 20-21-C-58D5-000A45-2505-2058DC0036-001 Amount changed from \$2,022.78 to \$0.00			
	Payment: RTP Finance Center US Environmental Protection Agency RTP-Finance Center (AA216-01) 109 TW Alexander Drive www2.epa.gov/financial/contracts Durham NC 27711 Period of Performance: 07/09/2019 to 07/08/2020			

S		ONTRACT/ORDER				QUISITION NU)	PAGE OF	: 3
2. CONTRACT NO		R TO COMPLETE BLO	3. AWARD/	4. ORDER NUMBER	111	OIII(I J		S. SOLICITATION NUM		6. SOLICITATION
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27a. SOLICIT	TATION INCORPOR	ATES BY REFERENCE	FAR 52.212-1, 5	2.212-4. FAR 52.212-3 AI DE FAR 52.212-4. FAR 52.2	ND 52.212-5 ATTA	ARE ATTACH	ED. ADE	DENDA		☐ ARE NOT ATTACHED. ☐ ARE NOT ATTACHED.
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19. ITEM NO.		20. SCHEDULE OF SUPPLIE:	S/SERVICES			21. QUANTITY	22. UNIT	23 UNIT P		24. AMOUNT
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	the Attachi	ment A Statement c	f Wor	k (5 pages)	and					
	the accepte	ed technical propo	sal ar	nd cost esti	.mate					
	dated June	13, 2019 (9 pages) in t	the amount o	f					
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	1	is a Time-and-Materials (T&M) task order a total ceiling price of \$102,517.00, which								
	1	Contractor is not authorized to exceed. The								
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	this order	is currently \$25,	000.00	O. This orde	er is					
	incrementally funded as detailed in Attachment B									
	Summary of Amounts and Ceilings and Attachment B									
	is hereby	incorporated (1 pa	ige).							
	Contracting	g Officer's Repres	entati	ive (COR) fo	r					
	this task	order:								
	Melissa Pu	chalski, (202) 343	-9882,	<i>r</i>						
	Puchalski.	Melissa@epa.gov								
	Alternate	COD.								
			.5./1 _ //	625						
		gardner, (202)919- r.Ralph@epa.gov	341-46	623,						
	Baumgarune.	r.Karpheepa.gov								
	The service	es of this order a	re for	r severable.						
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41b. SIGNATUI	RE AND TITLE OF CE	RTIFYING OFFICER	41	Ic. DATE	42b. R	ECEIVED AT	(Loca	ation)		
					42c. D	ATE REC'D (YY/MN	M/DD)	42d. TOTA	L CONTAINERS

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	EP-W-16-015/68HERH19F0250	3	3	

NAME OF OFFEROR OR CONTRACTOR

ITEM NO. (A)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)
	Period of Performance: 07/09/2019 to 07/08/2020				
0001	Supplemental Monitoring Studies at CASTNET Sites in Support of the NOx SOx Secondary Standard				
	Accounting Info: 19-20-C-58D5-000A45-2505-1958DC9042-001 BFY: 19 EFY: 20 Fund: C Budget Org: 58D5 Program (PRC): 000A45 Budget (BOC): 2505 DCN - Line ID: 1958DC9042-001 Funding Flag: Complete				
	Funded: \$25,000.00				

ATTACHMENT 1 Statement of Work

Title: Supplemental Monitoring Studies at CASTNET Sites in Support of

the NOx/SOx Secondary Standard (3010)

Contractor: Wood E&IS, Inc.

Contract #: EP-W-16-015

Task Order #: 68HERH19F0250

Period of Performance: 7/9/2019 to 7/8/2020

EPA Key Personnel

Task Order Project Officer (TOPO)/Contract Level Project Officer (PO):

Melissa Puchalski Clean Air Markets Division (OAP/OAR/CAMD) 1200 Pennsylvania Ave., NW Mail Code 6204M Washington, DC 20460

phone: (202) 343-9882

email: puchalski.melissa@epa.gov

Alternate TOPO:

Taylor Macy Clean Air Markets Division (OAP/OAR/CAMD) 1200 Pennsylvania Ave., NW Mail Code 6204M Washington, DC 20460 phone: (202) 343-9183

Contracting Officer (CO):

email: macy.taylor@epa.gov

Michael Fox Contracting Officer Administrative Contract Service Center 1200 Pennsylvania Ave N.W. Mail Code 3803R Washington DC 20460

phone: (202) 564-2550

email: fox.michael@epa.gov

STATEMENT OF WORK

I. INTRODUCTION

The Clean Air Status and Trends Network (CASTNET) is a long-term environmental monitoring network that measures changes in ambient air quality and assesses atmospheric deposition over broad geographic regions of the U.S. (https://www.epa.gov/castnet). Operating since 1987, CASTNET has evolved into a robust regional monitoring program which currently consists of approximately 95 monitoring stations nationwide. The Environmental Protection Agency (EPA) coordinates the operation of the network in cooperation with numerous federal, tribal, state and local partners.

The primary monitoring objectives of CASTNET are to:

- Provide high quality data on atmospheric deposition, rural ground level ozone and other forms of atmospheric pollution;
- Support the primary and secondary ozone NAAQS and provide data on NAAQS compliance in rural areas;
- Monitor the status and trends in regional air quality and atmospheric deposition;
- Assess and report on geographic patterns and long-term, temporal trends in ambient air pollution and atmospheric deposition;
- Improve our understanding of PM and ozone formation;
- Validate and improve atmospheric models;
- Provide data for health-based research and epidemiology studies;
- Assess the effectiveness of EPA's emission reduction programs; and
- Support science and ecosystem studies.

CASTNET sites measure weekly average concentrations of sulfate (SO₄²⁻), nitrate (NO₃⁻), ammonium (NH₄⁺), sulfur dioxide (SO₂), nitric acid (HNO₃), chloride (Cl⁻) and the base cations (Na⁺, K⁺, Mg²⁺ and Ca²⁺) using a 3-stage filter pack. In addition, each site may make ancillary measurements, including hourly ozone (O₃), hourly meteorology, ammonia (NH₃) gas using passive devices, and trace-level gases. Trace-level gas monitors include reactive oxidized nitrogen (NOy), nitric oxide (NO), sulfur dioxide (SO₂) and carbon monoxide (CO). CASTNET O₃, meteorological, and trace gas measurements follow the requirements in the Code of Federal Regulations (CFR) and EPA's Quality Assurance Handbook.

II. PURPOSE

The primary purpose of this task order is to improve the science and understanding of deposition process within the atmosphere. The EPA is currently evaluating the secondary National Ambient Air Quality Standard (NAAQS) for NOx and SOx. The work under this task will enhance the existing research currently available on direct deposition methods, atmospheric chemical processes that drive deposition parameters and estimates of sulfur and nitrogen loading to various landscapes. This research is a collaborative effort between EPA's Office of Air and Radiation (OAR), the Office of Research and Development (ORD), and other federal partners. This is a follow-on task order from the previous option periods.

Under this task order the contractor will continue to operate the enhanced NOy analyzer at the Duke Forest flux tower site (DUK008) located in Research Triangle Park, North Carolina. The enhanced NOy analyzer will operate at the Duke Forest tower site through the end of the Period of Performance as part of a larger reactive nitrogen flux study. Results from the enhanced NOy analyzer will be compared to the Monitor for AeRosols and Gases in Ambient Air (MARGA), the CASTNET filter pack, and passive ammonia (NH₃) samplers. The

Duke Forest research site currently features two National Atmospheric Deposition Program (NADP) Ammonia Monitoring Network (AMoN) sites (NC30 and NC98) and a small footprint CASTNET site.

The contractor shall install the modified Ecophysics system at the DUK008 tower. The modified inlet shall be placed near the top of the tower. During installation the calibration system designed for the enhanced NOy system will be integrated into the Ecophysics for routine quality control checks. Calibration data shall be polled by the contractor and submitted during routine data submittals to EPA.

Under this Task Order the contractor shall incorporate the calibration system into the Piccaro NH₃ system at the DUK008 site. This includes updating the data logger program to include challenging the Piccaro with NH₃ gas on a routine basis and collecting and reporting the QC results.

Additionally, under this task order, the contactor shall continue processing the field data from the AMoN site characterization study. Specifically, the contractor shall continue to process and validate the 3D sonic anemometer data utilizing the Eddy Pro software with parameters agreed upon by EPA/ORD.

Finally, the contractor shall install the EPA/ORD Shimadzu total nitrogen instrument in the Gainesville, FL laboratory. The contractor shall develop a documented method for analyzing CASTNET extracts for total water-soluble nitrogen.

III. CONTRACT LEVEL STATEMENT OF WORK REFERENCE

The tasks to be performed under this task order are consistent with the activities authorized in Task 22 (Level of Effort) of the contract's Statement of Work for Contract EP-W-16-015.

IV. TECHNICAL DIRECTION

1. Prepare a Technical Proposal & Cost Estimate

The Contractor shall prepare a Task Order Technical Proposal and Cost Estimate (TP&CE) in accordance with the terms and conditions of clauses B.1 entitled Fixed Rates for Services – Indefinite delivery/Indefinite quantity in the contract (EP-W-16-015). The contractor shall deliver the TP&CE to EPA within 10 days after receipt of the SOW.

2. Operate, Calibrate, and Quality Assure the Enhanced-NOy Measurement System

The Contractor shall continue operating the enhanced-NOy measurement system at the Duke Forest Flux Tower site (DUK008) which is co-located with a CASTNET filter pack. Operation includes routine calibrations, remote troubleshooting, QA, and data reporting. The operation of the standard NOy system and the CASTNET filter pack is covered under the Base Program Task Order (3003). The enhanced NOy system shall be calibrated during the routine quarterly calibration trips supported under the Base Program Task Order (3003).

Hourly measurements from the enhanced NOy system include NH₃, NHx, TNx, true NO₂, NOy, NOyDif, NO, and HNO₃. The contractor shall perform automated quality control checks of the analyzer(s) at least once per week. Data from the enhanced NOy measurement system shall be delivered to CAMD daily with the routine CASTNET submittals. Quality assured data shall be submitted to CAMD monthly, 90 days after data collection.

Under this task the contractor shall also continue testing the converters for a configuration that provides the most reliable, accurate data as compared to the CASTNET filter pack, AMoN and MARGA system at Duke Forest. Further testing on the calibration system is also expected.

This task includes four repair trips for the enhanced NOy measurement system that shall only be used as necessary. Remote troubleshooting shall be utilized when possible.

3. Ecophysics Installation

The contractor shall install the Ecophysics system at DUK008 with the newly designed inlet in the early summer. At the time of the installation, the contractor shall integrate the calibration gas delivery system from the enhanced NOy system into the Ecophysics for routine QC checks. The contractor shall use the data logger procured under the previous Task Order (2010) for programming the Ecophysics automated zero, span and precision checks. Zero checks may need to be performed frequently using the existing Ecophysics zero system, which can be programmed to run zero air through the inlet and the photomultiplier tube (PMT).

Ambient and QC data from the Ecophysics shall be polled by the contractor's data acquisition system and reported in the CASTNET database.

4. Piccaro Calibration Integration

The contractor shall integrate the enhanced total NOy calibration system into EPA/ORD's Piccaro NH₃ analyzer's QC procedure. The contractor shall work with EPA's ORD to determine the parameters to use in the data logger program and challenge concentrations needed for routine QC checks. The contractor shall poll the QC results and deliver data to EPA within 24 hours with the regularly scheduled gas-calibration data submittals.

5. Ammonia Flux Site Characterization Database

Under previous option periods the contractor installed measurement systems to collect soil moisture and temperature, 3D wind direction, and CASTNET meteorology at three CASTNET sites to develop a database of site characteristics for modeling the bi-directional flux of NH3. The contractor also visited each site to collect soil and vegetation samples for analysis. This task is a continuation of this work.

The contractor shall process and evaluate the 3D sonic wind data using agreed upon parameters in the Eddy Pro software package. The contractor shall utilize the post-processing Eddy Pro package to perform data filtering, coordinate rotations, calculate 30-minute or 1-hour turbulence statistics, and apply quality assurance metrics to the data. The contractor shall deliver a final dataset to the EPA by October 1st 2019.

6. Total Nitrogen Laboratory Analysis

The contractor shall develop a method for analyzing total nitrogen from the CASTNET filter pack extracts from a select number of sites. For the purposes of costing, the contractor shall estimate analyzing filter pack extracts from 5 sites for 3 months. EPA's ORD shall deliver the Shimdzu total carbon/total nitrogen instrument to the Gainesville, FL Wood laboratory. The analyzer converts the sample to gas phase nitrogen (NO) and the signal is detected by chemiluminescence.

The contractor shall prepare an SOP for the analysis including preparation of the extracts, processing the samples and running QA/QC samples. The contractor shall deliver a dataset of analyzed, quality assured samples on the normal monthly data delivery schedule with documented metadata.

V. DELIVERABLES AND SCHEDULE

1. Proposal

The contractor shall deliver a Task Order Technical Proposal & Cost Estimate in accordance with clause B.7 Task Order Ordering Procedures of the contract. The proposal shall be submitted 10 days after receipt of the SOW.

2. Monthly Progress Report

The contractor shall prepare and submit a monthly progress report by the 15th of each month summarizing the progress made, issues encountered or expected, work planned for the next reporting period and costs. These reports shall comply with contract clauses F.1, Monthly Progress Report, and F-5, Reports of Work. Reports shall be delivered electronically.

3. Site Characterization Database

The contractor shall deliver final a database with valid data and all QA/QC data reported during the field campaign. The database shall include tables with LAI, soil moisture and temperature, corrected 3D wind velocity and calculated fluxes using soil and vegetation compensation points for the three pilot sites. The contractor shall deliver the final database to EPA by October 1st 2019.

4. Standard Operation Procedures for Total Nitrogen Analysis

The contractor shall deliver SOPs for the total nitrogen analysis using CASTNET filter pack extracts by November 1st. The SOPs shall include the laboratory analysis methods including QA/QC samples and data validation procedures.

Distribution of Deliverables:

Addressee	Copies
EPA Contracting Officer (Mike Fox)	1
EPA Project Officer (Melissa Puchalski)	1
EPA Alternate (Taylor Macy)	1
EPA Technical Advisors (Ralph Baumgardner and John Walker) 1

TO#: 68HERH19F0250

Project#: 3010

ATTACHMENT B SUMMARY OF TASK ORDER OBLIGATION/CEILING AMOUNTS

Total Funding/Obligation Amounts						
Period	Previous Amount	This Action	Amount			
Base Period	į.	-	\$25,000.00			
Total	-	-	\$25,000.00			

Total Task Order Ceiling						
Period	Previous Amount	This Action	Amount			
Base Period	-	-	\$102,517.00			
Total	-	-	\$102,517.00			

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2. AMENDMENT/MODIFICATION NO).	3. EFFECTIVE	DATE	4. RE	 QUISITION/PURCHASE REQ. NO.	5. PROJECT	NO. (If applicable)
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6. ISSUED BY	CODE	HQAD		7. AE	OMINISTERED BY (If other than Item 6)	CODE	
HQAD US Environmental Pr William Jefferson C 1200 Pennsylvania A Mail Code: 3803R Washington DC 20460	linton Bu venue, N.	ilding					
8. NAME AND ADDRESS OF CONTR		county, State and	ZIP Code)	(x) 9/	A. AMENDMENT OF SOLICITATION NO.		1
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X EPA-B-32-10	3 - LIMIT	ATION OF	GOVERNMENT'	S O	BLIGATION		
E. IMPORTANT: Contractor	X is not	is required to	o sign this document and	d return	copies to the issuing	g office.	
14. DESCRIPTION OF AMENDMENT DUNS Number: 03808	6125 modificat	Organized by U	CF section headings, inc	cluding	solicitation/contract subject matter where feasib		of
LIST OF CHANGES: Reason for Modifica Obligated Amount fo New Total Obligated Incremental Funded \$25,000.00 to \$46,0 CHANGES FOR LINE IT Continued Except as provided herein, all terms a 15A. NAME AND TITLE OF SIGNER	r this Moo Amount fo Amount cha 29.00 EM NUMBER	dification this in the second different control of the second	on: \$21,029. Award: \$46,0 from	29.0 A, as h	eretofore changed, remains unchanged and in formal AND TITLE OF CONTRACTING OFFICE Chael C. Fox		
15B. CONTRACTOR/OFFEROR			15C. DATE SIGNED	16B	UNITED STATES OF AMERICA	L FOTRONIC S:GNATURE	16C. DATE SIGNED
(Signature of person author	rized to sign)				(Signature of Contracting Officer)	J.ORATORE	07/30/2019

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 OF

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NAME OF OFFEROR OR CONTRACTOR

TEM NO.	SUPPLIES/SERVICES	QUANTITY		UNIT PRICE	AMOUNT
(A)	(B)	(C)	(D)	(E)	(F)
	Obligated Amount for this Modification: \$21,029.00				
	Incremental Funded Amount changed from \$25,000.00				
	to \$46,029.00				
	NEW ACCOUNTING CODE ADDED:				
	Account code:				
	19-20-C-58D5-000A45-2505-1958DC9077-001				
	Beginning FiscalYear 19				
	Ending Fiscal Year 20				
	Fund (Appropriation) C				
	Budget Organization 58D5				
	Program (PRC) 000A45				
	Budget (BOC) 2505				
	Job # (Site/Project)				
	Cost Organization				
	DCN-LineID 1958DC9077-001				
	Amount: \$21,029.00				
	Subject To Funding: N				
	Payment Address:				
	RTP Finance Center				
	US Environmental Protection Agency				
	RTP-Finance Center (AA216-01)				
	109 TW Alexander Drive				
	www2.epa.gov/financial/contracts				
	Durham NC 27711				
	Payment:				
	RTP Finance Center				
	US Environmental Protection Agency				
	RTP-Finance Center (AA216-01)				
	109 TW Alexander Drive				
	www2.epa.gov/financial/contracts				
	Durham NC 27711				
	Period of Performance: 07/09/2019 to 07/08/2020				
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TO#: 68HERH19F0250

Project#: 3010

Modification#: P00001

ATTACHMENT B SUMMARY OF TASK ORDER OBLIGATION/CEILING AMOUNTS

Total Funding/Obligation Amounts					
Period	Previous Amount	This Action	Amount		
Base Period	\$25,000.00	\$21,029.00	\$46,029.00		
Total	\$25,000.00	\$21,029.00	\$46,029.00		

	Total Task Order Ceiling					
Period	Previous Amount	This Action	Amount			
Base Period	-	-	\$102,517.00			
Total	-	-	\$102,517.00			

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT				I. CONTRACT ID CODE	PAGE	OF PAGES
2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE D	DATE 4	1. REQU	ISITION/PURCHASE REQ. NO.	5. PROJECT	NO. (If applicable)
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6. ISSUED BY CODE	HQAD	7	7. ADMII	NISTERED BY (If other than Item 6)	CODE	
HQAD US Environmental Protection William Jefferson Clinton Bu 1200 Pennsylvania Avenue, N. Mail Code: 3803R Washington DC 20460	uilding					
8. NAME AND ADDRESS OF CONTRACTOR (No., stree	t, county, State and Z	IP Code) (x	x) 9A. A	MENDMENT OF SOLICITATION NO.		
WOOD ENVIRONMENT & INFRASTRUCTU Attn: JOSEPH FARRELL 751 Arbor Way Ste 180 Blue Bell PA 194221972	JRE SOLUTIC		9B. D	MODIFICATION OF CONTRACT/ORDER N-W-16-015 IERH19F0250 DATED (SEE ITEM 13)	O.	
CODE 038086125	FACILITY CODE			/02/2019		
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CHECK ONE A. THIS CHANGE ORDER IS ISSUED ORDER NO. IN ITEM 10A.	change an offer al nce to the solicitati uired) IODIFICATION OF PURSUANT TO: (3	ready submitted , such chon and this amendment, and the submitted Net CONTRACTS/ORDERS.	nange ma and is re Incr IT MOD	ay be made by letter or electronic communic eceived prior to the opening hour and date sp ease: \$2 SIFIES THE CONTRACT/ORDER NO. AS DES SISTEMPLY SET FORTH IN ITEM 14 ARE MADE IN THE	ation, provided becified. 25,000.0 SCRIBED IN F	TEM 14.
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X EPA-B-32-103 - LIMIT	TATION OF	GOVERNMENT'S	OBL	IGATION		
E. IMPORTANT: Contractor 🗵 is not 14. DESCRIPTION OF AMENDMENT/MODIFICATION DUNS Number: 038086125	9. 2007 - 10 - 10 - 10 - 10 - 10 - 10 - 10 -	sign this document and re F section headings, include			*	
The purpose of this modifica \$25,000.00 to this task order TOCOR: Melissa Puchalski LIST OF CHANGES: Reason for Modification: Fund Obligated Amount for this Modew Total Obligated Amount for this Modew Total Obligated Amount of Incremental Funded Amount of S46,029.00 to \$71,029.00 CHANGES FOR LINE ITEM NUMBER Continued Except as provided herein, all terms and conditions of the Total NAME AND TITLE OF SIGNER (Type or print)	ding Only dificatio for this A anged:	Action n: \$25,000.00 ward: \$71,029 from	0 9 • 0 0		iull force and e	ffect.
15B. CONTRACTOR/OFFEROR	1	5C. DATE SIGNED	Mich	ael C. Fox		16C. DATE SIGNED
			$f^{ij}(x)$		L FOTRONIC S:GNATURE	01/22/2020
(Signature of person authorized to sign)				(Signature of Contracting Officer)		01/22/2020

 CONTINUATION SHEET
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 PAGE
 OF

 EP-W-16-015/68HERH19F0250/P00002
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NAME OF OFFEROR OR CONTRACTOR

TEM NO.	SUPPLIES/SERVICES	QUANTITY		UNIT PRICE	AMOUNT
(A)	(B)	(C)	(D)	(E)	(F)
	Obligated Amount for this Modification: \$25,000.00				
	Incremental Funded Amount changed from \$46,029.00				
	to \$71,029.00				
	NEW ACCOUNTING CODE ADDED:				
	Account code:				
	20-21-C-58D5-000A45-2505-2058DC0025-001				
	Beginning FiscalYear 20				
	Ending Fiscal Year 21				
	Fund (Appropriation) C				
	Budget Organization 58D5				
	Program (PRC) 000A45				
	Budget (BOC) 2505				
	Job # (Site/Project)				
	Cost Organization				
	DCN-LineID 2058DC0025-001				
	Amount: \$25,000.00				
	Subject To Funding: N				
	Payment Address:				
	RTP Finance Center				
	US Environmental Protection Agency				
	RTP-Finance Center (AA216-01)				
	109 TW Alexander Drive				
	www2.epa.gov/financial/contracts				
	Durham NC 27711				
	Payment:				
	RTP Finance Center				
	US Environmental Protection Agency				
	RTP-Finance Center (AA216-01)				
	109 TW Alexander Drive				
	www2.epa.gov/financial/contracts				
	Durham NC 27711				
	Period of Performance: 07/09/2019 to 07/08/2020				
	Tellou of Tellotimance: 0770372013 to 0770072020				
		ı			

Order#: 68HERH19F0250 (3010)

Modification: P00002

ATTACHMENT B SUMMARY OF TASK ORDER OBLIGATION/CEILING AMOUNTS

Total Funding/Obligation Amounts					
Period	Previous Amount	This Action	Amount		
Base Period	\$46,029.00	\$25,000.00	\$71,029.00		
Total	\$46,029.00	\$25,000.00	\$71,029.00		

Total Task Order Ceiling					
Period	Previous Amount	This Action	Amount		
Base Period	-	-	\$102,517.00		
Total	-	-	\$102,517.00		

AMENDMENT OF SOLICITATION/MODIFIC	ATION OF CO	NTRACT		I. CONTRACT ID CODE	PAGE	OF PAGES
2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE	DATE	4. REQU	ISITION/PURCHASE REQ. NO.	5. PROJECT	NO. (If applicable)
P00003	See Bloc	k 16C_	PR-OA	R-20-00946	3010	
6. ISSUED BY CODE	HQAD		7. ADMI	NISTERED BY (If other than Item 6)	CODE	
HQAD US Environmental Protection William Jefferson Clinton Bu 1200 Pennsylvania Avenue, N. Mail Code: 3803R Washington DC 20460	uilding					
8. NAME AND ADDRESS OF CONTRACTOR (No., street	t county State and	7IP Code)	9A A	MENDMENT OF SOLICITATION NO.		
WOOD ENVIRONMENT & INFRASTRUCTU Attn: JOSEPH FARRELL 751 Arbor Way Ste 180 Blue Bell PA 194221972		DNS, INC.	9B. C x 10A. EP- 68F	MATED (SEE ITEM 11) MODIFICATION OF CONTRACT/ORDER NOT 16-015 MERH 19F 0 2 5 0 DATED (SEE ITEM 13)	NO.	
CODE 038086125	FACILITY CODE	:				
ODE 038086125				/02/2019 NTS OF SOLICITATIONS		
separate letter or electronic communication which incl RECEIVED AT THE PLACE DESIGNATED FOR THE OFFER. If by virtue of this amendment you desire to each letter or electronic communication makes referen	pies of the amend ludes a reference : RECEIPT OF OF change an offer a nce to the solicitat	Iment; (b) By acknowledge to the solicitation and am FFERS PRIOR TO THE H Iready submitted, such c	dging recei mendment HOUR AN change m	pt of this amendment on each copy of the o numbers. FAILURE OF YOUR ACKNOW D DATE SPECIFIED MAY RESULT IN REJ ay be made by letter or electronic communic	offer submitted; /LEDGEMENT T IECTION OF YO cation, provided	or (c) By TO BE DUR
12. ACCOUNTING AND APPROPRIATION DATA (If req. See Schedule	uired)	Net	Incr	ease: \$	15,000.0	00
	CT/ORDER IS MO H IN ITEM 14, PU	DDIFIED TO REFLECT TO RSUANT TO THE AUTH	THE ADMI HORITY O	S SET FORTH IN ITEM 14 ARE MADE IN T NISTRATIVE CHANGES (such as changes F FAR 43.103(b).		
D. OTHER (Specify type of modification	and authority)					
X EPA-B-32-103 - LIMIT	CATION OF	GOVERNMENT'S	S OBL	IGATION		
E. IMPORTANT: Contractor X is not	is required to	sign this document and	d return _	copies to the issuir	ng office.	
14. DESCRIPTION OF AMENDMENT/MODIFICATION DUNS Number: 038086125	(Organized by UC	CF section headings, incl	cluding sol	citation/contract subject matter where feasi	ible.)	
The purpose of this modifica		o obligate i	incre	mental funding in the	amount	of
\$15,000.00 to this task orde	r.					
TOCOR: Melissa Puchalski						
LIST OF CHANGES:						
Reason for Modification: Fun Obligated Amount for this Mo New Total Obligated Amount f Incremental Funded Amount ch \$71,029.00 to \$86,029.00 Continued	dification or this A	on: \$15,000.0				
Except as provided herein, all terms and conditions of the	ne document refer	enced in Item 9 A or 10A	A, as here	tofore changed, remains unchanged and in	full force and e	ffect.
15A. NAME AND TITLE OF SIGNER (Type or print)				AME AND TITLE OF CONTRACTING OFFI	ICER (Type or p	print)
15B. CONTRACTOR/OFFEROR		15C. DATE SIGNED	16B. UN	NITED STATES OF AMERICA	EL FETRONIC S:GNATURE	16C. DATE SIGNED
(Signature of parago authorized to sign)			$\int \frac{\partial u}{\partial x}$	(Signature of Contracting Officer)		05/22/2020

 CONTINUATION SHEET
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 OF

 EP-W-16-015/68HERH19F0250/P00003
 2
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NAME OF OFFEROR OR CONTRACTOR

		QUANTITY			AMOUNT
(A)	(B)	(C)	(D)	(E)	(F)
	CHANGES FOR LINE ITEM NUMBER: 1				
	Obligated Amount for this Modification: \$15,000.00				
	Incremental Funded Amount changed from \$71,029.00				
	to \$86,029.00				
	NELL ACCOUNTING CODE ADDED				
	NEW ACCOUNTING CODE ADDED:				
	Account code:				
	20-21-C-58D5-000A45-2505-2058DC0054-001				
	Beginning FiscalYear 20				
	Ending Fiscal Year 21				
	Fund (Appropriation) C				
	Budget Organization 58D5				
	Program (PRC) 000A45				
	Budget (BOC) 2505				
	Job # (Site/Project)				
	Cost Organization				
	DCN-LineID 2058DC0054-001				
	Amount: \$15,000.00				
	Subject To Funding: N				
	Payment Address:				
	RTP Finance Center				
	US Environmental Protection Agency				
	RTP-Finance Center (AA216-01)				
	109 TW Alexander Drive				
	www2.epa.gov/financial/contracts				
	Durham NC 27711				
	Payment:				
	RTP Finance Center				
	US Environmental Protection Agency				
	RTP-Finance Center (AA216-01)				
	109 TW Alexander Drive				
	www2.epa.gov/financial/contracts				
	Durham NC 27711				
	Period of Performance: 07/09/2019 to 07/08/2020				
ı					

Order#: 68HERH19F0250 (3010)

Modification: P00003

ATTACHMENT B SUMMARY OF TASK ORDER OBLIGATION/CEILING AMOUNTS

Total Funding/Obligation Amounts							
Period	Previous Amount	This Action	Amount				
Base Period	\$71,029.00	\$15,000.00	\$86,029.00				
Total	\$71,029.00	\$15,000.00	\$86,029.00				

	Total Task Order Ceiling							
Period	Previous Amount	This Action	Amount					
Base Period	-	-	\$102,517.00					
Total	-	-	\$102,517.00					

SOLICITATION/CONTRACT/ORDER FOR COMMERCIAL ITEMS OFFEROR TO COMPLETE BLOCKS 12, 17, 23, 24, & 30					1. REQUISITION NUMBER PR-OAR-19-00903 PR-0 AR-19-00903 PR-0 AR-19-00903					
0.000/704074/		R TO COMPLETE BL		<u> </u>	P	R-OAR-19	-0090	(50)	1 1	3
2. CONTRACT NO EP-W-16-	0. -015		3. AWARD/ EFFECTIVE DA 07/09/2	4. ORDER NUMBER TE 019 68HERH19F02	:53			5. SOLICITATION NUMBE	.R	6. SOLICITATION ISSUE DATE
	R SOLICITATION RMATION CALL:	a. NAME Michae	l Fox			b. TELEPHONE 202-564		s and thought or so the second	8. OFFER D ET	DUE DATE/LOCAL TIME
9. ISSUED BY			CODE	HQAD	10. THIS AC	QUISITION IS	X UN	RESTRICTED OR	SET ASIDE:	% FOR:
HQAD US Environmental Protection Agency William Jefferson Clinton Building 1200 Pennsylvania Avenue, N. W. Mail Code: 3803R Washington DC 20460				VETER	NE SMALL	☐ (wos	MEN-OWNED SMALL BUSIN SB) ELIGIBLE UNDER THE I BUSINESS PROGRAM OSB	WOMEN-OWN	ED NAICS:541620 BIZE STANDARD: \$15.0	
	FOR FOB DESTINA-	12. DISCOUNT TERMS						13b. RATING		
TION UNLESS BLOCK IS MARKED ☑ SEE SCHEDULE			R/	HIS CONTRACT IS ATED ORDER UNI PAS (15 CFR 700)		14. METHOD OF SOLI		RFP		
15. DELIVER TO		COD	E OAR/OAO	PS/AOAD	16. ADMINIS	STERED BY				OAD .
OAR/OAQPS/AQAD OAR/OAQPS/AQAD US Environmental Protection Agency Mail Code: C304-02 109 TW Alexander Drive Durham NC 27711				Willia 1200 I Mail (am Jeffe	rson ania 803R	rotection Ac Clinton Buil Avenue, N. W	ding	~	
17a. CONTRACTO		038086125	FACILIT'		18a. PAYME	NT WILL BE MAD	E BY		CODE R	TP FMC
Attn: JOSE 751 Arbor \ Ste 180 Blue Bell Pa	PH FARRELL Way A 194221972 (b)(4)	& INFRASTRUG			US En RTP-F: 109 Ti www2. Durhar	inance C W Alexan epa.gov/ m NC 277	tal Penterder Dfinan	rotection Ac (AA216-01) rive cial/contrac	cts	ELOW
19.			20.		IS CHI	ECKED	SEE ADDE	ENDUM 23.		24.
ITEM NO.		SCHEDU	JLE OF SUPPLIES/	SERVICES		QUANTITY	UNIT	UNIT PRICE		AMOUNT
	Handling S This task Order Orde the base of reference. commence if	oplemental : Support for order is in ering Proces contract te . The effect is July 9, : actor shall	Laborator CSN (301 ssued in dures and crms and c tive date 2019. perform	accordance with hereby incorperonditions by a for performant in accordance eets as Necessary)	orate:					
25 ACCOUNT	ING AND APPROPRI		1 Additional Sh	eets as Necessary)			 	l 6. TOTAL AWARD AMC	UNT /For Go	ut I lea Only)
See Sche		ATION DATA					ľ	\$72,451		
				52.212-4. FAR 52.212-3 AI			ED. AD	DDENDA		☐ ARE NOT ATTACHED.
28. CONTRA COPIES TO ALL ITEMS S SHEETS SU	ACTOR IS REQUIRE ISSUING OFFICE. SET FORTH OR OTI	D TO SIGN THIS DOO CONTRACTOR AGRI HERWISE IDENTIFIE RMS AND CONDITION	CUMENT AND RE EES TO FURNISI D ABOVE AND O	ETURN H AND DELIVER	31a. UNIT	29. AWARD (DATED INCLUDING / HEREIN, IS A	ANY ADD	. YOUR OFF ITIONS OR CHANGES D AS TO ITEMS: IGNATURE OF CONTRACTOR EL FOTRO	ER ON SOLIC WHICH ARE TING OFFICER)	OFFER CITATION (BLOCK 5), SET FORTH
30h NAME AND	D TITLE OF SIGNE	(Tuno or print)		30c DATE SIGNED	72		CTING	S:GNATU	146	210 DATE SIGNED
30b. NAME AND TITLE OF SIGNER (Type or print) 30c. DATE SIGNED				SSS. DATE GIGHED	31b. NAME OF CONTRACTING OFFICER (Type or print) Michael C. Fox 31c. DATE SIGNED 07/02/203					07/02/2019

19. ITEM NO.		20. SCHEDULE OF SUPPLIE:	S/SERVICES			21. QUANTITY	22. UNIT	23. UNIT PI		24. AMOUNT
	the Attachr	ment A Statement c	f Work	k (3 pages)	and					
	the accepte	ed technical propo	sal an	nd cost esti	.mate					
	dated June	20, 2019 (6 pages) in t	the amount o	f					
	\$72,451.00.									
		Time-and-Materials								
		al ceiling price o								
		ctor is not author			'he					
	Contractor	exceeds at its ow	n risk	k.						
	The total of	obligated/funded o	eilino	r amount for						
		is currently \$33,	_							
		lly funded as deta								
		Amounts and Ceili								
	_	incorporated (1 pa								
	1	g Officer's Repres	entati	ive (COR) fo	r					
	this task o		3 7 (0-1)	_						
	Joann Rice,	, (919)541-3372, R	ace.Jo	oann@epa.gov	7					
	Alternate (COR:								
	Beth Landis	s, (919)541-2262,								
	Landis.Eliz	zabeth@epa.gov								
		es of this order a	re for	r severable.						
	TOCOR: Beth									
	Period of B	Performance: 07/09	7/2019	to 07/08/20	20					
0001	Supplementa	al Laboratory and	Filter	r Handling						
0001	Continued .	, -	111001	nanaring						
32a. QUANTIT	Y IN COLUMN 21 HAS	0.000								
RECEIV	/ED INSI	PECTED ACCEPTE	D, AND CON	NFORMS TO THE COM	NTRACT, E	EXCEPTAS	NOTE	D: _		
32b. SIGNATUI	RE OF AUTHORIZED	GOVERNMENT REPRESENTATIV	E	32c. DATE	32d. PRIN	NTED NAME	AND 1	TITLE OF AUTH	ORIZED G	OVERNMENT REPRESENTATIVE
32e MAILING A	ADDRESS OF AUTHOR	RIZED GOVERNMENT REPRESEI	NTATI\/F		32f. TELE	21. TELEPHONE NUMBER OF AUTHORIZED GOVERNMENT REPRESENTATIVE				
OZC. MAILING P	ADDITEGO OF ACTION	THE TOTAL THE REGER	· iAlive		021. 1222	2. TELEFHONE NUMBER OF AUTHORIZED GOVERNMENT REFRESENTATIVE				ETTTE
32g. E-MA				AIL OF AUTH	IORIZI	ED GOVERNM	ENT REPRE	ESENTATIVE		
33. SHIP NUMBER 34. VOUCHER NUMBER 35. AMOUNT VERIFIED 36. PA			36. PAYM	IENT				37. CHECK NUMBER		
CORRECT FOR			_							
PARTIAL FINAL COM			MPLETE	Ш	PARTIAL [FINAL				
38. S/R ACCOUNT NUMBER 39. S/R VOUCHER NUMBER 40. PAID BY										
41a. I CERTIF	Y THIS ACCOUNT IS C	LORRECT AND PROPER FOR PAY	MENT		42a. R	ECEIVED BY	(Prim	t)		
41b. SIGNATUI	RE AND TITLE OF CE	RTIFYING OFFICER	410	c. DATE	42b. R	42b. RECEIVED AT (Location)				
						, ,				
42c. DATI				ALE KEUD (r Y/IVIN	וטטזוי	42d. TOTA	L CONTAINERS		

	REFERENCE NO. OF DOCUMENT BEING CONTINUED	PAGE	OF
CONTINUATION SHEET	EP-W-16-015/68HERH19F0253	3	3

NAME OF OFFEROR OR CONTRACTOR

TEM NO. (A)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)
	Support for CSN				
	Accounting Info:				
	19-E1-53GS-000A04XPM-4183-1953PM9062-001 BFY: 19				
	Fund: E1 Budget Org: 53GS Program (PRC): 000A04XPM Budget (BOC): 4183 DCN - Line ID:				
	1953PM9062-001				
	Funding Flag: Complete				
	Funded: \$33,538.00				

ATTACHMENT 1 Statement of Work

Title: Supplemental Laboratory and Filter Handling Support for the

Chemical Speciation Network (CSN) (3013)

Contractor: Wood Environment & Infrastructure Solutions Inc.

Contract #: EP-W-16-015

Task Order #: 68HERH19F0253

Period of Performance: 7/09/2019 to 7/08/2020

EPA Key Personnel

Task Order Project Officer (TOPO)/Contract Level Project Officer (PO):

Joann Rice

Air Quality Assessment Division (OAR/OAQPS/AQAD)

Mail Drop C304-06

Research Triangle Park, NC 27711

Phone: (919) 541-3372 Email: rice.joann@epa.gov

Alternate TOPO:

Laurie Trinca

Air Quality Assessment Division (OAR/OAQPS/AQAD)

Mail Drop C304-06

Research Triangle Park, NC 27711

phone: (919) 541-2262 email: trinca.laurie@epa.gov

Contracting Officer (CO):

Mike Fox

Contracting Officer

Administrative Contract Service Center

1200 Pennsylvania Ave N.W.

Mail Code 3803R

Washington DC 20460

phone: (202) 564-2550 email: fox.michael@epa.gov

STATEMENT OF WORK

I. INTRODUCTION

The Clean Air Status and Trends Network (CASTNET) is a long-term environmental monitoring network that measures changes in ambient air quality and assesses atmospheric deposition over broad geographic regions of the U.S. (https://www.epa.gov/castnet). Operating since 1987, CASTNET has evolved into a robust regional monitoring program which currently consists of approximately 95 monitoring stations nationwide. The Environmental Protection Agency (EPA) coordinates the operation of the network in cooperation with numerous federal, tribal, state and local partners.

The primary monitoring objectives of CASTNET are to:

- Provide high quality data on atmospheric deposition, rural ground level ozone and other forms of atmospheric pollution;
- Support the primary and secondary ozone NAAQS and provide data on NAAQS compliance in rural areas:
- Monitor the status and trends in regional air quality and atmospheric deposition;
- Assess and report on geographic patterns and long-term, temporal trends in ambient air pollution and atmospheric deposition;
- Improve our understanding of PM and ozone formation;
- Validate and improve atmospheric models;
- Provide data for health-based research and epidemiology studies;
- Assess the effectiveness of EPA's emission reduction programs; and
- Support science and ecosystem studies.

CASTNET sites measure weekly average concentrations of sulfate (SO₄²⁻), nitrate (NO₃⁻), ammonium (NH₄⁺), sulfur dioxide (SO₂), nitric acid (HNO₃), chloride (Cl⁻) and the base cations (Na⁺, K⁺, Mg²⁺and Ca²⁺) using a 3-stage filter pack. In addition, each site may make ancillary measurements, including hourly ozone (O₃), hourly meteorology, ammonia (NH₃) gas using passive devices, and trace-level gases. Trace-level gas monitors include reactive oxidized nitrogen (NOy), nitric oxide (NO), sulfur dioxide (SO₂) and carbon monoxide (CO). CASTNET O₃, meteorological, and trace gas measurements follow the requirements in the Code of Federal Regulations (CFR) and EPA's Quality Assurance Handbook.

II. PURPOSE

The primary purpose of this task order is to pre-wash nylon filters for the Chemical Speciation Network (CSN) and conduct acceptance testing. Once the filters have been washed and pass the CSN acceptance testing criteria, they will be shipped to Wood Environment & Infrastructure Solutions, Inc. (formerly Amec Foster Wheeler) for use in the routine network, which functions under a contract between Wood and EPA's Office of Air Quality Planning & Standards (OAQPS).

III. CONTRACT LEVEL STATEMENT OF WORK REFERENCE

The tasks to be performed under this task order are consistent with the activities authorized in CLIN 22 (Level of Effort) in the contract's Statement of Work for contract EP-W-16-015 (CASTNET V).

IV. TECHNICAL DIRECTION

1. Prepare a Technical Proposal & Cost Estimate

The Contractor shall prepare a Task Order Technical Proposal & Cost Estimate (TP&CE) in accordance with the terms and conditions of contract clauses B.1 entitled Fixed Rates for Services, using time and materials with a cost ceiling. The contractor shall submit the TP&CE to EPA within 10 days of the issuance of the task order SOW.

2. Pre-wash and acceptance test the Chemical Special Network (CSN) Nylon Filters

The Contractor shall prewash and acceptance test nylon filters procured for the CSN under the CSN contract between EPA/OAQPS and Wood. Wood PLC shall provide the filters for washing and conduct acceptance testing (procured under the CSN contract). The contractor shall follow the SOP for Cleaning Nylon Filters Used for the Collection of PM2.5 Material

(https://www3.epa.gov/ttnamti1/files/ambient/pm25/spec/pm25nyloncleaningsop.pdf) for cleaning and the Standard Operating Procedure for Procurement and Acceptance Testing of Teflon, Nylon, and Quartz Filters (https://www3.epa.gov/ttnamti1/files/ambient/pm25/spec/RTIFilterProcurementSOPFINAL.pdf) for acceptance testing. The cleaned filters must meet EPA's acceptance testing criteria for the CSN, of an average for each cleaning batch that is ≤ 1 ug/filter for each ion (chloride, ammonium, sodium, potassium, nitrate and sulfate). Acceptance testing shall occur on 5% of the filters per batch that is cleaned, likely to occur on a weekly basis. We anticipate approximately 300 filters will be cleaned on a weekly basis, and acceptance testing results shall be submitted to OAQPS within 7 days of completion of the pre-cleaning and drying. Data shall be summarized and delivered to the CORs in an agreed upon format. The contractor shall provide cleaned filters and acceptance testing results to Wood on a weekly basis for deployment in network. The CSN uses up to 1350 nylon filters per month. Should the CSN filter manufacturer begin providing nylon filters that meet EPA's acceptance test criteria without the need for washing, the TOPO shall inform the contractor that there is no longer a need for these services. The maximum number of filters to be pre-washed and acceptance tested under this task is 16,200.

3. Travel to Meetings

None anticipated.

V. DELIVERABLES AND SCHEDULE

1. Technical Proposal & Cost Estimate

The contractor shall deliver a Task Order TP&CE in accordance with clause B.7 Task Order Ordering Procedures of the contract. The proposal shall be submitted 10 days after receipt of the SOW.

2. Monthly Progress Report

The contractor shall prepare and submit a monthly progress report by the 15th of each month summarizing the progress made, issues encountered or expected, work planned for the next reporting period and costs. These reports shall comply with contract clauses F.1 Reports of Work and F.5 Monthly Progress Report. Reports shall be delivered electronically.

Distribution of Deliverables:

Addressee	Copies
EPA Contracting Officer (Mike Fox)	1
EPA Project Officer (Melissa Puchalski)	1
EPA TOPO (Joann Rice)	1
EPA Alternate (Laurie Trinca)	1
EPA Technical Advisor (Taylor Macy)	1

TO#: 68HERH19F0253

Project#: 3013

ATTACHMENT B SUMMARY OF TASK ORDER OBLIGATION/CEILING AMOUNTS

Total Funding/Obligation Amounts								
Period	Previous Amount	This Action	Amount					
Base Period		į.	\$33,538.00					
Total		•	\$33,538.00					

	Total Task Order Ceiling								
Period	Previous Amount	This Action	Amount						
Base Period	-	-	\$72,451.00						
Total	-	-	\$72,451.00						